

CLAIMS

1. Method for crystallising a melamine melt to form melamine particles with a D<sub>90</sub> of at most 2 mm by cooling a melamine melt to below the crystallisation temperature of the melamine, comprising the formation of a suspension of melamine particles in the cooling medium by spraying the melamine melt with at most 10 wt% of CO<sub>2</sub> relative to the sprayed quantity of melamine melt in a space in which a layer of a liquid cooling medium is present that has a temperature below the crystallisation temperature of the melamine and under cooling conditions at which at least 50 wt% of the sprayed melamine melt directly turns into suspended melamine particles.
2. Method according to claim 1, with the cooling medium consisting of at least 90 wt% of liquid ammonia.
3. Method according to claim 1 or 2, with the temperature of the cooling medium being controlled by evaporation of the coolant.
4. Method according to one of the claims 1-3, with the temperature of the cooling medium being controlled by bringing it in contact with an environment with a lower temperature than the temperature of the cooling medium.
5. Method according to one of the claims 1-4, with the melamine melt being sprayed together with a gas as a two-phase flow.
6. Method according to one of the claims 1-5, characterised in that the melamine melt is sprayed directly in the cooling medium.
7. Method whereby the melamine is separated from a suspension of crystallised melamine in the cooling medium, obtained according to one of the preceding claims.
8. Method for manufacturing melamine from urea in a, preferably continuous, high-pressure process, comprising the reaction of urea to form melamine in a reactor at a pressure between 4 and 25 MPa and a temperature between 330 and 430 °C, separating the formed reactor product into a flow that consists principally of liquid melamine and a flow that consists principally of CO<sub>2</sub>, NH<sub>3</sub> and melamine vapour, crystallisation by cooling the liquid melamine, using a cooling medium, to below the crystallisation temperature at which solid melamine is formed and separating the solid melamine, characterised in that crystallisation takes place with the method according to one of the claims 1-7.